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PROCESS DESCRIPTION FOR THE IN-
CORPORATION OF NUTRITION CRITERIA
IN THE PALAWAN IAD PROJECT
PHILIPPINES
by
Marito H. Garcia

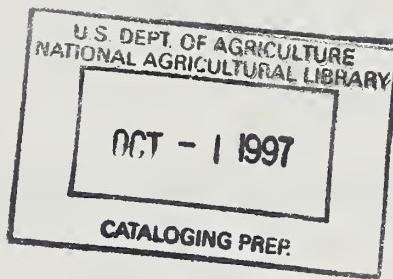
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IN PALAWAN IAD PROJECT
PHILIPPINES

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LIST OF PROJECT DOCUMENTS

Document

- No. 1 Nutrition-Oriented Development Planning Manual,
NNC, 1981.
- No. 2 FAO Methodology for Introducing Nutritional Considerations in Agriculture and Rural Development Project, Rome, 1978.
- No. 3 Project Paper: Nutrition: Palawan IAD Project (Initial Assessment) October, 1979.
- No. 4 Terms of Reference for Feasibility Study of PIADP, and Memorandum of Understanding between ADB and the Government, 1980.
- No. 5 Survey Questionnaire
- No. 6 Consultant Mission's Report to FAO, (Hitchings) on Palawan Project. 29 April 1980.
- No. 7 PIADP Feasibility Study Report. Annex on Nutrition. SATEC/GIRD. October 1980.
- No. 8 PIADP First Stage Feasibility Study Report. June 1980. SATEC/GIRD.
- No. 9 Executive Summary of PIADP Based on ADB Appraisal and Loan Approval. 1981.
- No. 10 Data Analysis of Palawan Survey. Lopez. Cornell. 1981.

LIST OF ACRONYMS

ADB	Asian Development Bank
FAO	Food and Agriculture Organization
FNP	Food and Nutrition Planning
SATEC	Societe' d'Aide Technique et de Cooperacion
GIRD	Generators of Integrated Rural Development, Inc.
ICC	Infrastructure Computer Center
NACIAD	National Council on Integrated Area Development
NFA	National Food Authority
NGA	National Grains Authority
NNC	National Nutrition Council
NORDPLAN	Nutrition Oriented Development Planning
PBMEU	Project Benefit Monitoring and Evaluation Unit
PIADP	Palawan Integrated Area Development Project

ABBREVIATIONS OF NUTRITION TERMS

WA	Weight of age
OPT	Operation Timbang
RDA	Recommended daily allowance
CU	Consumption Unit
NPR	Nutrition Priority Ratio

S U M M A R Y

There is no tradition for systematically considering food consumption and nutrition goals in the design, identification, assessment and monitoring of agriculture and rural development projects. A review of the past and present activities in this area in the Philippine and elsewhere in the world indicate that very little indeed has been done to ensure that nutrition goals are explicitly incorporated in the project development cycle. A few of the main reasons for this plight can be cited: (1) agricultural and rural development planning has been generally supply-oriented e.g. production functions and the like, (2) food and nutrition planning was generally geared towards direct intervention using curative treatment of symptoms in programs like feeding, nutrient supplementation and health actions.

There is, however, an increasing recognition of the key role of rural and agricultural development projects in achieving sustained reduction of energy-protein malnutrition in the Third World. However, for non-nutrition development projects to achieve a sustained positive impact on nutrition, plans/design need to be guided in their formulation.

This paper describes the process of integrating nutrition goals in the planning and design of the Palawan Integrated Area Development Project (PIADP) in the Philippines. The methods applied have been developed both at the Food and Agriculture Organization (FAO) and

at the National Nutrition Council by a multi-disciplinary team comprising of economists, nutritionists, sociologist, systems analyst, project analyst and statistician.

In general, the experiment done in the context of the planning of the Palawan Integrated Area Development Project (PIADP) appears to have gained considerable ground in dealing with nutritional issues in project preparation. Several conclusions from the experiment are derived to guide future activities in the area of incorporating nutrition objectives in agriculture and rural development projects. These are:

- 1) A necessary condition for incorporation of nutrition and social objectives as a criteria in deciding project design is that it should not cause unacceptable losses in the other project objectives (e.g. economic rate of return, etc.). Sometimes, lower but acceptable economic rate of return on the project might result from changes in project design that imply large nutritional gains. Beyond this, the nutrition criteria becomes a political criteria (by political will and commitment to nutrition objectives).
- 2) There is ample latitude in a project design to balance nutrition with other project objectives. It requires basic understanding of the nature and causality of nutrition to uncover nutrition issues that bear on the project design. (Guidelines for these are summarized in the attached Primer on NORDPLAN, as Document No. 1)
- 3) Nutritional status and food consumption are powerful indicators in describing quality of life and impact of projects on the population; and therefore should be routinely used in project preparation.

- 4) Five main groups of indicators related to nutrition are adequate to characterize nutrition problems, namely: nutritional status (by anthropometry), food consumption, health indicators, sanitation, and wealth (income proxies).
- 5) If nutrition is to receive the same recognition as other objectives of the project, it must be inputed into the decision making process on the project design at an early stage of the project cycle;
- 6) To predict project impact we found that food energy consumption in terms of kcalories intake could be used. This indicator is tied with per capita income of population groups that benefit from project inputs.

This paper documents the actual processes and methodology used. The report is divided into four main parts, each referring to the actual sequence of the planning cycle, namely:

- i. pre-project selection and analysis;
- ii. project identification, preparation and project analysis;
- iii. project appraisal and review;
- iv. design of project monitoring and evaluation system.

Actual project documents are presented as part of this paper.

Part I: Pre-Project Selection and Analysis-Phase
(June to October 1979)

Institutional Setting

For ease of reference, I shall refer to this phase as the stage where the scope of the project is not yet defined, and where reconnaissance level investigations of project areas are carried out to define possible range of projects, activities and resources to be tapped. This is similar to the phase in USAID's activities prior to the preparation of a 'project paper' where project ideas are being defined.

Palawan IAD Project (PIADP) started with these activities as early as 1978 with the organization of its Project Office based in Manila, under the National Council on Integrated Area Development (NACIAD now under the Office of the Prime Minister). By mandate, the PIADP office is able to muster assistance from about 13 major agencies in the government in the preparation and implementation of the project. At this time, the National Nutrition Council (NNC) is not yet among the agencies invited to participate.

It was not until the middle of 1979 that NNC got itself formally involved in the preparation activities of the Palawan project. A major assumption that we hold at this time is that there is willingness on the part of the PIADP office to get the nutrition sector (thru NNC) involved in the planning activities. This is hardly the case, however, since nowhere in the history of NACIAD's project preparation has nutrition been a factor. At that time the project design process was initiated

using traditional production potentials as primary criteria and basing decisions purely on technical and economic considerations. Representations by NNC are then submitted to NACIAD, PIADP's office on the possible inclusion of NNC in project preparation activities.

At about this time also, the FAO is embarking on a 6-country testing of methods for incorporating nutrition in agriculture and rural development projects. (See Document No. 2, Methodology for introducing Nutritional Considerations in Agriculture and Rural Development Projects) Negotiations in Rome (FAO) and Manila (among the Food Policy and Nutrition Division of FAO, NNC and NACIAD) formally adopted Palawan as a test case.

Arrangements for nutrition assessment in PIADP have commenced (October 1979) upon the request of the Philippine Government to FAO to cooperate in the preparation of the area development project. Arrangements are being made with NACIAD, the agency created by the government to prepare, implement and monitor all IAD programmes. Likewise, arrangements are being made with NNC to embark on the work to integrate nutrition in the planning of PIADP.

At this point, the participation of the nutrition sector within the Philippine Government in the planning of PIADP is formalized by the appointment of NNC as a full member of the PIADP Steering Committee.

NACIAD and PIADP's leadership are quite receptive to NNC's participation in the process. The interim project director of PIADP feels strongly for social objectives for IAD projects and

is in fact extending his technical support and ideas on how the methods we are proposing can be better tested. He himself has done social justification analysis in his previous post in the country's first IAD program at the Bicol River Basin project (as its deputy director).

In a previous experience with the Samar Integrated Area Development Project, I was able to include nutrition as one of the criteria in a later stage of the program. This was hardly ideal, considering that for nutrition to make a full impact and recognition on the plans and designs, it is imperative that nutrition goals must enter into the decision making on project identification and design at an early stage of the project cycle. To add nutrition as an afterthought is merely to meet the need half-way. However, substantial experience was gained by the Food and Nutrition Planning (FNP) Team which I headed as a Consultant to the National Nutrition Council. It was in the Samar IADP experience therefore that cleared many things in our minds regarding issues in a systematic methodology. This experience, I believe, reinforces our capacity to apply the FAO methods which are generally formulated in a similar context.

The Palawan IAD Project offers challenging opportunities to incorporate nutrition and social objectives into the project design. During the past 10 years, the development of Palawan had been based on an unbalanced dualistic process; increased migration and entry of big corporations involved in mining, logging and corporate farming. Their influx created economic pressure and pushed the local inhabitants, mostly lowland paddy farmers, into the narrow strips of upland where they continued their marginal farming activities, thereby aggravating economic, social and ecological problems.

Interventions in the Planning Process

Having achieved our first beachhead, that of including the Council as a participating agency in the project and its subsequent appointment in the PIADP steering committee, we started to work with the PIADP office, which by this time is busy working out the terms of reference of the Asian Development Bank's technical assistance for conducting the feasibility study of the project.

Our central task at this juncture is to be able to complete a secondary data collection activity including a four-day site visit designed to assess the food and nutrition situation in the project area and present findings to the PIADP office; these would provide relevance in the incorporation of nutrition goals in the preparation of the terms of reference for PIADP's feasibility study.

The Rapid Two-Week Assessment

Our multi-disciplinary FNP team is embarking on a quick review and reconnaissance level investigation of the food and nutrition situation in Palawan, referred to in FAO methods as initial assessment. We are making a short four-day visit of probably project sites and will carry out ocular inspection and spot interviews. Secondary data are collected from the provincial offices of line agencies like: local offices of agriculture, extension, grains authority, ports and highways; as well as from the nutrition officers who are implementing nutrition programs.

The findings in the two-week assessment are cost summarized as
Document No. 3, Project Paper PIADP Nutrition, 1979.

The food and nutrition situation in the project area is described using anthropometric, socio-economic and physical indicators available from secondary sources only. Weight for age (WA) data are derived from the Operation Timbang (OPT), a nationwide child weighing program conducted annually in 17 out of 20 municipalities in the province. Food consumption data for 35 households out of 2,800 in the national sample are taken from the Nationwide Food and Nutrition Survey of 1978 conducted by the Food and Nutrition Research Institute (FNRI). No reliable mortality and morbidity data have been found at this time of the assessment. Food production figures are being obtained from the National Grains Authority (later called the National Food Authority). Information on the physical characteristics of Palawan and farming patterns in the area are available from the NACIAD office. Income data are taken from the provincial survey conducted by the provincial government of Palawan in 1975.

We are diagnosing the food and nutrition problems of the area in this initial assessment using available data, delineating the project design issues and defining the types and level of detail of data that would be suitable in performing a project analysis that uses nutrition as an explicit planning criterion.

The Data

As expected, the secondary data are scanty and are not in the desired level of detail necessary in project preparation and analysis. Nevertheless the following indications of the food and nutrition problems emerged from the rapid assessment.

Child Malnutrition - At this time of initial assessment, it is estimated that 27 percent of the children under 6 years are moderately or severely malnourished (2nd and 3rd degree underweight). Although this strictly applied to the children weighed in the 1978 Operation Timbang, the coverage was reported to be around 70-90 percent, so these figures are still considered reasonably representative.

Child Mortality - Reliable data on child mortality are not available. However, it is very likely that the under 5 mortality rate is high, based on a report from the provincial health office.

Diseases - The Ministry of Health states at this time that malaria is by far the most frequently reported disease in Palawan. It particularly affects young children and contributes substantially to malnutrition, child mortality and anemia. Gastro-enteritis is also prevalent, another major cause of mortality and malnutrition in children. Among other diseases, tuberculosis is widespread, as are respiratory tract infections.

Food Consumption - FNRI data for Palawan on food consumption for 1978 give a mean of 1,813 kcal/head/day, which is 93 percent of the recommended daily allowance (RDA) of 1,950 kcal/head/day. The protein/calorie ratio is 10.8 percent, which is adequate; this means that on the average, energy requirements will also be met, even for young children. Of the micro-nutrients, Vitamin A intakes and riboflavin are particularly deficient.

Cereals constitute about 40 percent of the average diet, the remainder being made up of fish, meat and poultry at 14 percent; fruits and vegetables at 33 percent; fats and oils at one percent; and roots and tubers at 4 percent.

Food Production - The National Grains Authority reports that since 1978 the province has been self-sufficient in rice and has exported 45,000 cavans (2,250 metric tons) to other areas in the Philippines.

Although Palawan as a whole produces a surplus in rice, the average consumption appears inadequate to meet nutritional needs. This could be due to the following reasons:

- a) economic demand for rice too low to meet nutritional needs (maybe seasonal);
- b) insufficient rice is retained for home consumption among farmers; and
- c) food preferences are such that there is no further demand for rice, and the deficit needs to be made up from other foods (i.e., income elasticity for rice of around zero).

A major contributor to food supply, corn is placed at 2,500 metric tons (1979). Less than one percent of the agricultural areas is devoted to root crops and tubers, mostly produced for home consumption. Corn and cassava partly supplement the food needs of an average Palaweno; these contribute at least 8 percent of the total food energy intakes, based on the FNRI (Palawan) results for 1978.

Among the protein foods, there exists shortfalls in eggs, milk and milk products and legumes, and to a lesser degree fish, meat and poultry. Total meat production (pork, poultry, beef) is placed at only 2,360 metric tons (1979), substantially below the total requirement for the province. Significant shortfalls in green, leafy vegetables are also noted; these are main sources of Vitamin A. In 1979 around 5,300 metric tons of vegetables covering beans, eggplant, squash, pechay, okra, cucumber and watermelon

were produced in the province with a significant portion used for home consumption. The province is virtually dependent on external sources, like Manila, for vegetables such as cabbage, carrots and mango.

Groups Affected with Malnutrition - Malnutrition patterns in Palawan as reflected from the OPT (weight) survey of 1978 tend to indicate the following characteristics:

- a) Municipalities located in relatively higher terrain slopes (El Nido, Taytay, Busuanga, Coron, and Araceli) have higher rates of malnutrition than the low municipalities (Bataraza, Brooke's Point, Narra, Quezon, Puerto Princesa, Roxas, and San Vicente) with the exception of Aborlan. This provides indications that topography and accessibility are contributing factors to the problem of nutrition in Palawan.
- b) Northern Palawan municipalities generally have higher levels of malnutrition than Southern Palawan;
- c) The best rice-producing areas of Brooke's Point, Bataraza, Narra, and Quezon have the lowest rate of malnutrition (average: 23 percent 2nd and 3rd degree) in the province;
- d) The island group comprising the municipalities of Agutaya, Magsaysay and Cuyo have rates of malnutrition lower than the Cagayancillo island group, and in fact lower than the average for the province.

In terms of occupational groupings, the FNRI (Palawan) 1978 food consumption survey indicates that:

- a) Calorie intake of farmers and fishermen are approximately 12 percent below the recommended levels, whereas professionals and other workers generally have sufficient calories in their diet.

- b) Protein intakes of farmers and fishermen are 5 percent below the required levels.

FNP Team's Recommendations from the Initial Assessment

Several issues are now raised by the initial assessment, regarding how the Palawan IAD Project could be designed in order to have maximum impact on nutrition. The first deals with the question of who are to be reached by the project. It is being proposed that project benefits should reach those who are most nutritionally in need. The productivity, income and employment effects appear likely to be the most important contributors to improved nutrition.

Tentative recommendations about the target groups are proposed for incorporation during the process of the project preparation, including:

- 1) Directing the project components to the more inaccessible barangays; to the smaller and less efficient farmers; to the ^{subistence} sustenance fishermen, etc.;
- 2) Designing certain components so that income and food accrue to those in need, e.g. so that small fishermen obtain maximum income from their catch; and
- 3) Strengthening certain services, e.g. malaria control and health services, potable water supply for most affected areas.

It is assumed that project beneficiaries would, in fact, benefit in terms of nutrition. But it is recognized that there are certain circumstances in which food consumption and sanitation of target groups could deteriorate as a result of project activities. Several possibilities needed to be checked with the data still to be collected and analyzed for

the project are:

- 1) Change in cropping patterns, particularly any shifts from food crops to cash crops;
- 2) Improvements in marketing causing less retention of food produced by household (e.g. rice, fish) for home consumption;
- 3) Increased malaria prevalence resulting from irrigation schemes; and
- 4) Changes in food habits and child-rearing practices due to changes in employment and income.

These examples identify the need for inclusion of nutrition indicators in the project monitoring and evaluation system.

In addition, it is also being proposed that project preparation should take into account the possible adverse effects on food consumption and sanitary environment of non-target groups. Examples of possible reasons for such adverse effects of the project occurring are:

- 1) Diversion of resources, e.g. water, land, fuel, agricultural inputs, services;
- 2) Diversion of food to areas or population groups with increased demand, causing either supply shortages or rising prices; and
- 3) Ecological side effects affecting production (e.g. erosion, flooding) and health (e.g. malaria).

On food production, marketing and consumption, it is noted that a small surplus of rice is being produced, while average consumption is still below nutrition requirements. In this regard, it is being proposed that attention be given during the project preparation to production and marketing,

so that more food might be generally made available. Towards this end, it would be necessary to look carefully at where food is needed and what type of food; at changes in economic demand for food; and possibly to identify additional components to modify these factors.

When both nutrition problems - who are affected and why - and project design are better defined, the need for additional components could be identified. There are 3 types:

- 1) Increased outreach of existing production and service-oriented components;
- 2) More inputs to increase food production, marketing and food purchasing power or income generation; and
- 3) Additional inputs to the existing Philippine Nutrition Programme itself, as well as for health services and environmental sanitation.

Expenditures for the project itself would have a significant impact, even if only short-term, on income and employment. There is need in planning, for example, so that public works components be made to utilize unemployed and under-employed; to mesh labour demand with seasonally available labour; and to avoid disruptions in the labour for normal agricultural activities.

The importance of monitoring and evaluation has been identified in the initial assessment, measuring the impact of Palawan IAD Project on the identified beneficiaries. It will be necessary to keep track of the extent to which the goals, objectives and planned benefits are realized through project implementation. This requires the establishment of a nutrition evaluation and monitoring system to guide the implementors of the Palawan

IAD Project in checking the effects of plans and programs on the target beneficiaries and where necessary, re-aligning implementation so as to meet the desired nutrition impact.

Need for Further Work

One of the main findings in the initial assessment is the recognition of need for further in-depth analysis of food and nutrition problems. The data that exist at the time of the rapid assessment of the nutrition problems in the project area are inadequate and unsuitable for the detailed requirements for project planning. In order to investigate further characteristics and patterns of nutrition among the project target groups, it is proposed that a sample survey in the project areas is necessary.

This survey is intended to derive:

- 1) Information at the barangay level, such as location, physical characteristics, services, etc.;
- 2) Information about the household: food consumption, occupation, main crops, technology, wealth;
- 3) Indications of the nutritional situation of the family: nutritional status, morbidity, mortality of young children and sanitation.

To make these data relevant in the project preparation of PIADP, we are coordinating the sampling plan with the rest of the PIADP surveys, like socio-economic, agro-economic, soil surveys and topographic surveys. We consider the food and nutrition survey as one of the critical inputs in the project preparation activities.

PIADP Office and Donor Agency's Response and Attitudes

The PIADP Nutrition Initial Assessment Paper (Document No. 3) is formally presented to the PIADP planners and the financing agency for the project - the Asian Development Bank. The PIADP officers are quite open to dealing with the many issues being raised by the nutrition initial assessment paper. They realize the importance of social objectives like nutrition, in the project. They admit that in the past, NACIAD had been paying only lip-service to social criteria in their project preparation. One of the many reasons they cite is the lack of an effective and acceptable method by which social and nutrition criteria could be incorporated in a routine basis. The PIADP director points out that they have applied some form of social cost-benefit analysis in his past work in the Bicol River Basin Project; and this method has some semblance of the food/nutrition methods that we propose to test in Palawan.

Nevertheless, our formal discussions with the PIADP staff which are contained in (Document No. 3) dated October 23, 1979 triggered the decision to introduce nutritional factors in the design process of the project. The PIADP director shows keen interest in the methods and finding of the nutrition initial assessment and is giving us the necessary support on the field studies in the area.

On the part of the donor agency (Asian Development Bank), some skepticism is at first noted. Being a bank, its main criteria is primarily that of economic viability, e.g. decisions on project acceptability will

be mainly based on technical and economic considerations. ADB itself has not been involved in nutrition and social issues in the past, but is anxious to reflect in its loans the development orientation of the recipient nation. We have, thus, influenced the ADB to introduce nutrition/social criteria in the project design. ADB and the PIADP office have agreed to include these concerns in the Terms of Reference (TOR) for the conduct of the feasibility study of the project.

(Document No. 4, TOR of the Project)

Our FNP Team is being given a chance to review the terms of reference for the project. We have recommended revision/addition of some parts. Among these are:

- i. explicit declaration of nutrition as a goal in the project;
- ii. inclusion of nutrition criteria in deciding targetting of projects, and in the choice of agricultural crops; and
- iii. proposals for review of possible negative nutrition impact of some component

Resources for Pre-Project Selection and Analysis Phase

Personnel. (Refer to Annex No. 1, Qualifications of FNP Team)

The specialists involved in the initial assessment phase comprise of an economic (myself), contracted by NNC; a nutritionist from NNC; and a nutrition planner from FAO (Rome). The services of an economist at this stage is important since project preparation demands project analysis. My background suited well in the process because of my five-year experience in project preparation and packaging of development projects (particularly area and rural development projects). Likewise, I was exposed to food

and nutrition planning in the last three years, having been contracted by NNC and FAO (Rome) to assist in designing methods for incorporating nutrition in project analysis. The nutritionist in the FNP Team is with the planning staff of NNC. She has an MS in nutrition. A nutrition planner from FAO (Rome) joins the FNP Team as an adviser/consultant; he oversees and participates in the testing of the FAO methods in the project. The officer from FAO has a PhD in nutrition and has worked extensively on nutrition planning in Africa. He is mainly responsible for the design of the FAO methods being tested in Palawan and in 5 other places elsewhere in the world.

Resource Cost. The main item of cost of this phase is taken by consultants' man-months. Travel cost to and from the project site is minimal since we spent only 4 days in the field. The entire operation is estimated to cost US \$10,000, broken down as follows: 60% consultant's time, 25% for travel cost, 10% for local government counterpart's time and 5% for incidentals.

An analysis of the cost of nutrition assessment and incorporation study is given in Annex No. 2.

CHECKLIST
DATA and ANALYSIS REQUIREMENTS AT PRE-PROJECT SELECTION PHASE
PALAWAN IAD PROJECT

ANALYSIS REQUIREMENTS	:	DATA REQUIREMENTS and SOURCES										
Nutritional situation by area and group		<ul style="list-style-type: none">Anthropometry, mainly weight for age of 0-6 year old children from the OPT (weight survey) Data level: by municipality, given in terms of percent children who are moderately (2°) and severely (3°) underweight. Specific groups with problems cannot be identified by secondary data.										
Health situation		<ul style="list-style-type: none">Data can be given in terms of morbidity rates, given at provincial level only, from the Ministry of Health.										
Food Consumption		<ul style="list-style-type: none">The Food and Nutrition Research Institute conducted a nationwide survey (1978) of 2,800 households. Only 35 samples were taken from Palawan. The indications from these are:<ul style="list-style-type: none">Per capita calorie intake is deficient by at least 10% of RDA, or approximately 1813 kcal per day.Vitamin A and riboflavin are particularly deficient.Average diet composition:										
		<table><tbody><tr><td>Cereals</td><td>40%</td></tr><tr><td>Fish, Meat, Poultry</td><td>14%</td></tr><tr><td>Fruits/Vegetables</td><td>33%</td></tr><tr><td>Fats and Oils</td><td>1%</td></tr><tr><td>Roots/Tubers</td><td>4%</td></tr></tbody></table>	Cereals	40%	Fish, Meat, Poultry	14%	Fruits/Vegetables	33%	Fats and Oils	1%	Roots/Tubers	4%
Cereals	40%											
Fish, Meat, Poultry	14%											
Fruits/Vegetables	33%											
Fats and Oils	1%											
Roots/Tubers	4%											
Food Production		<ul style="list-style-type: none">National Grains Authority figures indicate that in 1978, Palawan was a net exporter of rice — about 2,250 metric tons. Despite the surplus, average consumption appears inadequate to meet nutritional needs.										



ANALYSIS REQUIREMENTS

:

:

DATA REQUIREMENTS and SOURCES

- Some vegetables were imported from Manila.
 - Meat production was substantially below requirements
 - Corn production was 2,500 metric tons in 1979.
 - Rootcrops and tubers are produced mainly for home consumption.
-

Phase II: Project Identification, Preparation/Design
and Project Analysis (October 1979 to July 1980)

The Setting

The activities carried out at this stage are similar to those in the preparation of a "Project Paper" in a USAID setting. This phase is devoted to the identification of the projects for inclusion in the investment plan, followed by project preparation activities where the technical, economic, financial, social and operational feasibility of the identified projects are determined.

The Asia Development Bank (donor agency) selects a French consulting firm (SATEC) together with a local (GIRD) based at the University of the Philippines in Los Baños (UPLB), to carry out the feasibility study of the Palawan Project. The PIADP Office, with resources being provided as Philippine government counterpart acts as coordinating body for all government agencies participating in this multi-sectoral undertaking.

The ADB technical assistance is formally commencing in March 1980, with the arrival of the multi-disciplinary team of Consultants (about 22 specialists), headed by an agronomist planner. The contract for the feasibility study requires the consultants to submit the final report in 6 months, the first two months devoted to project identification and the latter four months devoted to feasibility studies.

The six-month duration for feasibility study is apparently a very short period for preparing a big project like Palawan. This is made possible because of the previous baseline data generation activities (e.g. soil survey, socio-economic, agro-economic survey etc.) that the PIADP office has carried out in the past six months.

At this time, the PIADP office is formally organizing the inter-agency steering committee for the project. Due to its representations with NACIAD and PIADP office, NNC is selected as a voting member, thus paving the way for an institutional intervention of the nutrition sector in the planning process of Palawan. The FNP team of NNC+FAO is thus officially a member of the planning team.

It must also be mentioned that ADB is convinced of the need to consider social and nutrition criteria in its projects in spite of its admission that it has not dealt with such issues in the past. This is reflected in the approval of the study terms of reference in which nutrition is explicitly defined as one of the project's goals.

Overview of Nutrition Incorporation Activities

The processes to be described in this phase are:

- i. food/nutrition survey
- ii. data processing
- iii. interpretation and analysis of survey
- iv. incorporation of findings in Palawan Project's Planning
- v. responses and outcome of intervention in planning.

We realize that timing in the context of design is critical in the inclusion of explicit and quantified nutrition criteria in the planning of the project. Our Samar IAD experience proves that unless critical data are available at the time of making decisions with respect to project inputs, outputs and activities, nutrition becomes an ineffective evaluation criterion.

Thus, we are to launch our food/nutrition/socio-economic survey a full 4 months ahead of the actual start of the project preparation by ADB's consultants. We hope that by the time they identify the project scope, we would have the parameters for nutrition. We are conducting the survey at about the same time that PIADP is commencing its data generation activities (e.g. agro-economic surveys, socio-economic surveys, soil surveys, and land capability surveys).

Possibilities for combining PIADP office's socio-economic survey without food/nutrition into one big multi-purpose survey is being explored. We find, however, that our technical survey requirements are quite different since we have to conduct child weighing and food recall. Since our survey is quite experimental, we are conducting the nutrition survey separately.¹

The Food/Nutrition Survey

The survey draws the critical food/nutrition parameters, to be used in the design process for the project.

¹ Note: In retrospect, I feel that future surveys of this kind could be combined into one multi-purpose survey that has a food/nutrition module. This will considerably reduce cost of data collection and data processing; apart from the facility of analyzing a data file of only one survey (vs. spuriously merged data files).

The purposes of the survey are: to measure the variations in malnutrition among various population groups in the project area and relate those variations to possible causal factors. The prescribed list of indicators collected for these purposes include: nutritional status of young children, food consumption, health conditions (morbidity and mortality), sanitary conditions (drinking water, waste disposal, garbage disposal). These indicators are to be associated with barangay information on location and topography, household occupation, cropping types, farm size and wealth characteristics.

The Survey Content and Procedures

Since the Palawan IAD Project would be focused primarily in the central and southern parts of the Palawan mainland, the survey is being coordinated in the six municipalities comprising those parts, namely: Puerto Princesa (provincial capital), Brooke's point, Narra, Aborlan, Quezon and Bataraza. These municipalities account for 75 percent of the provincial population.

The survey utilizes a two-stage sampling procedure wherein each household in the sample municipalities has an equal chance of being selected. Some twenty-five (25) barangays or villages are randomly selected from a total possible field of 125. In terms of topographical characteristics, the sample barangays are broken down as follows: upland (4 barangays), lowland (9 barangays), coastal (3 barangays), island (1 barangay), mixed topography (8 barangays). In sample barangays, households are being randomly selected from a pre-existing list of residents provided

by the barangay captain. A minimum of 40 samples are chosen for each barangay. The sampling procedure, thus, utilizes weighing at the municipality level but not at the household level.

Two sets questionnaires are being utilized in the survey: barangay or village questionnaire and household questionnaire (Document No. 5).

The barangay questionnaire, with the barangay captain as respondent, covers area type of information. The barangay questionnaire yields data covering topographical characteristics, agro-economic zoning, distance-to-market centres, and health facilities, presence of irrigation systems, electricity and prevalence of malaria.

The second set of questionnaires are designed to obtain information on household and child characteristics. The household level questions cover the following:

- i. Nutritional status of young children (0-83 months) using anthropometric measurements (weights and ages only). For purposes of the survey, children below the 75 percent weight for age (WA) cut-off (or second and third degree malnutrition) are defined as malnourished. The Philippine growth standard is used to evaluate weight for age in the survey.^{1/} The Philippine Standard is based on FNRI Classification of WA (1977), and its application in the analysis of Palawan survey makes

^{1/} Technical Note: The Philippine growth standard follows the Harvard growth norm for the first two years and their declines to about 90 percent of the international reference at age 60 months.

the results compatible and comparable with other nutrition surveys carried out elsewhere in the Philippine archipelago. Children with protein-calorie malnutrition (a condition resulting from a deficiency in calories and/or protein) typically have low WA. Thus, comparing WA values to the reference growth standard provides an indicator of the nutritional status of the particular group.

- ii. Food Consumption Data are collected in order to describe the variations in food consumption and nutrient intakes, and relate these to income, occupational and topographical variations.^{2/} The survey utilizes a 24-hour food recall procedure (based on FNRI Method), whereby recall of foods in meals eaten by the household are obtained through an interview of the mother, normally the person who prepares the meal. The weights of the various food items are converted to grams, or household measures. From food quantities, as converted to gram weights by FNRI (1975) are calculated nutrient values (calories, protein, iron, vitamins, etc.) using the FNRI Food Consumption Tables (1968). Household level food intake is translated into per capita intake by dividing the total consumption by the number of consumption units (C.U.) in the household. (One C.U. is equivalent to an individual present in all three meals). Comparing food and nutrient intakes with the recommended dietary allowance (RDA)

^{2/}The FAO methods did not recommend the collections of food consumption in the case studies. However, the NNC-NORDPLAN Team believed at the time of the survey that these data could be crucial to influencing project planning towards nutrition goals. Furthermore, the survey team had the capability and experience to handle, process and analyze food consumption information.

would provide a description of the inadequacy of the various population groups. Prices of each food item are likewise collected in the interview, and are likewise validated through market survey of barangays. This permits the collection of typical food patterns among households.

- iii. Health Variables covered by the survey are mortality rates of children under 5 years of age and morbidity (fever, cough, diarrhea) three days prior to the interview.
- iv. Sanitation Variables include type of potable water supply (piped, artesian wells, springs, rain etc.) and its distance from houses, type of toilet facilities (open pit, closed pit, water sealed, or none) and type of garbage disposal system (dump, burn, collected, buried).
- v. Wealth Variables are used as proxies for income assessment, and cover: housing (type, number of rooms, housing materials, ownership), livestock ownership (number of cattle), and children's education.
- vi. Demographic Variables include family size, sex and age composition.

The households are defined in terms of their main sources of income and topographical location, and size of landholding (farmers). Farmer groups are sub-categorized into kaingeros (slash-and-burn farmers), rainfed (upland/lowland), or irrigated. Farmer groups are likewise classified according to the size of land ownership, type of crops cultivated, their tenurial status and degree of subsistence. For the fishermen groups, the following information are collected: whether commercial or sustenance, whether they own boats or not, whether the boats

are motorized or non-motorized, types of fishing activity (trawl, hook and line, gill net etc.) and catch retention for home consumption. Service workers are classified into regular or casual workers.

Survey Procedures

The detailed schedule of the survey activities are given in Table I below.

Table I
Schedule of Survey Activities

Period	Activity
October 1-19, 1979	<u>Survey Planning</u> <ul style="list-style-type: none">. Initial gathering of data from secondary sources to establish socio-economic conditions (reconnaissance level). Design interview schedule based on variables gathered from secondary sources, and discussions with PIADP office.. Design of sampling procedure
October 20-23, 1979	<u>Communications and Logistics Link-up</u> <ul style="list-style-type: none">. Establish communications link with local government. Pre-testing of interview schedule.. Gather information on barangay location, transportation network, cultural minority groups, on-going projects.
October 23 to November 7, 1979	<u>Finalization of Detailed Survey Plans</u> <ul style="list-style-type: none">. Revision of interview schedule.. Drawing of sample barangays.. Preparation of interview schedule, logistics.. Hiring of 3 field supervisors.
November 8-12, 1979	<u>Pre-Survey Preparation</u> <ul style="list-style-type: none">. Hiring of field enumerators-interviewers.. Finalize sample barangays.. Training of field enumerators-interviewers in the methods of food recall, conduct of OPT, interview for socio-economic variables.

Period	Activity
November 13-27, 1979	<u>Survey Phase</u>
	<ul style="list-style-type: none"> . Protocol visit to local officials. . Data collection. . Field editing of questionnaires by the interviewers. . Validation of edited questionnaires by the supervisors . Market survey (kind, price) of selected food items in each sample barangay.
November 28 - December 6, 1979	<u>Post-Survey Phase</u>
	<ul style="list-style-type: none"> . Comprehensive re-checking of questionnaires at Puerto Princesa, Palawan. . Pre-processing of food recall data: condensation of various household (food) units into standard units, coding of food items.
January-March 1980	<u>Data Processing (UNIVAC 1100/10 and Micro-computer (Commodore PET))</u>
	<ul style="list-style-type: none"> . Encoding . Data Cleaning and File Creation . Analysis Runs
June to July 1980	<u>Data Analysis (Manila)</u>
	<ul style="list-style-type: none"> . Data analysis using UNIVAC 1100 computer (stage 1) . Data analysis using Commodore PET micro-computer (stage 2).

Contracting Procedure for (Food/Nutrition) Survey

The preparation of the survey questionnaire and sampling plan is carried out by the FNP team, in consultation with the PIADP Office planners. The field supervisors of the survey, comprising of a survey team leader and three supervisors (all BS nutrition graduates from University of the Philippines), are being contracted by NNC in Manila. These supervisors are hired for a period of 40 days, 30 days, of which are spent in the field and the rest in Manila for the final editing of interview schedules. The entire survey operation is under my overall supervision.

Some 32 field enumerators based in Palawan are hired on a daily contractual basis. The enumerators are selected from a field of 52 applicants, mostly college graduates from Palawan Normal College. We choose to hire local interviewers since there exists qualified personnel and because they know the language, culture and terrain of Palawan more than anybody else in the country.

Training of Enumerators

Training is conducted by the survey team leader and the three field supervisors (all BS Nutrition graduates, University of the Philippines) for four days (November 9-12, 1979) at the Pilot Elementary School in Puerto Princesa (capital city of Palawan Province). The instruments for training include the questionnaire schedules, training manual, weighing scales (bar scale and food scale), and calculators.

The training phase cover:

- i. methods and manner of interview
- ii. conduct of the weight survey and food recall
- iii. comprehensive analysis of the questionnaire content
- iv. group dynamics to strengthen rapport at field operations

Field dry-runs are conducted after each lecture for the enumerators to acquire first-hand experience in field data collection.

About 35 percent of the 32 enumerators have had past experience in socio-economic surveys. Enumerators are hired on the basis of competence in conducting interview and accuracy in filing questionnaires.

The initial interview are conducted at Puerto Princesa under the direct supervision of the field supervisors. Two days are required to assess and simulate the procedures before field launching of the survey.

Validation of Data

To ensure quality of data, measures are being taken to check and validate each of the interview schedule at four control points: first, immediately after the interview, checked by the enumerator herself; second, at the field headquarters, checked by the supervisors; third, second editing in Manila by the supervisors; and fourth in Manila, prior to computer processing, conducted by the programmer (for example, WA figures outside 45 percent to 145 percent are unreasonable; therefore, deleted).

Data Processing

Data processing is envisioned to be undertaken (on a pilot basis using a 32-k micro-computer procured from FAO (Rome). Problems in the acquisition of the machine however, delayed the timetable for data processing which is scheduled to be completed by March 1980. To meet the schedule, data processing is hence carried out at the Infrastructure Computer Center using a UNIVAC 1100/10 computer.

The computerization of the survey is being contracted to the ICC, covering data coding, data entry, data cleaning and analysis runs. SPSS programs are used in most of cross-tabulations and statistical analysis.

At the latter stage of process the micro-computer given by FAO is being used as part of the technical assistance for this project. We are encountering some problems with the machine in two main areas (1) the lack of readily available software; and (2) the machine capacity is rather limited to deal with the number of variables in the survey. FAO developed a software package for this type of survey, but we are not able to adopt and use the program for the Palawan Survey because of time constraints. The other main problem relates to the capacity of the machine. The PET 32 K micro-computer has the following components: main frame with video display, a floppy disk, 2 cassette recorders and a printer. The PET has 50 percent of its addressable core utilized by a program only 16 digits of a 1,000 case file (i.e. 1,000 observation survey) can be stored for processing, or eight 2-digit

questions at a time. The cassette readers can transcribe data at the rate of 4K per minute, but without restructuring, the entire survey would have to be read to extract the eight questions from all the records. The Palawan survey (without food consumption part) requires 160 bytes per observation. One pass would demand about 40 minutes of tape reading. This means that using cassette tapes, the input-output operations would use considerable amount of time. Problems in capacity will even be more pronounced if food consumption data is processed.^{1/} (see Hitchings' Mission Report to FAO. (Document No. 6))

^{1/} The big leap in capacity of micro-computers in the market today can obviate these problems experienced in the Palawan Project. However, there is an urgent need for the development of software packages to deal with nutrition/socio-economic variables.

Analysis of Survey Data

The data analysis and interpretation is mainly carried out by our FNP team with roughly 1.5 man-months input by FAO's consultants. In general, the following analyses are to be supplied to the PIADP consultants:

- i. ranking of areas (municipalities) and population groups in terms of nutritional deprivation, to be used in targetting of programs;
- ii. nutritional significance of various crops considered for upland and lowland agriculture; and
- iii. relationship of water supply to nutrition for purposes of defining the scope of the water supply component.

To attain immediate results for the use of the ADB consultant's planning, we first identified the components which are amenable to analysis within the scope of the survey. Through this, we are able to prioritize processing of survey data outputs. For instance, analyzing survey questions relating irrigation, resettlement, agriculture diversification and water supply are being given priority in comparison with other parts of the survey.

The table below illustrates the PIADP components and types of survey analyses that can be carried out. (see Document No. 6 Hitchings).

Table I

PIADP Components and Types of Survey Analyses

<u>Project Component</u>	<u>Relevant Survey Analysis</u>
1. Roads	Little input foreseen from survey. Roads may decrease subsistence ratio on holdings and generate employment for service workers. Possibly, use of priority nutrition areas in road alignment.
2. Ports	Probably none.
3. Inland Fishing (Fishponds)	Probably none.
4. Communal irrigation	How nutritional status, health factors and wealth compare between households with irrigated and non-irrigated holdings. Relationship between nutrition and holding size among households with irrigated plots.
5. Resettlement	Comparisons by main crops, percent of production retained for home consumption, size of holding, kaingin versus non slash-and-burn farmers. Prioritization for targetting areas.
6. Agricultural Diversification	First, cross-tabulations of main crops with livestock holdings to establish frequent combination; then rank groups with certain combinations using nutrition and related indicators. Outcome would be which groups to emphasize and possibly in which directions to diversify. Data may be too general to make informed suggestions regarding crops or livestock to expand into.
7. Reforestation and Agro-forestation	Kaingin and rainfed upland households versus other groups.
8. Coastal fishing	Boat owners versus share fishermen; motorized versus non-motorized. Perhaps little input, but project may affect motorization rates through credit.
9. Rural industries	Service workers versus fishing and farm families, perhaps combined. (An assessment of relative need). Lower priority for analysis.
10. Water supply	Find average distance to water for each barangay. Also get distribution of distance for entire sample, divide into three ranges, compare by nutrition and related indicators. Cross-tabs of distance ranges with water source types. Create a variable to code certain

Project Component

Relevant Survey Analysis

combinations. Then cross-tabs of barangay codes with these combinations of distance and type to find locations. Some morbidity questions may also apply.

11. Malaria Control

Probably little input, but can use the malaria question from the barangay questionnaire. Perhaps divide into three groups of barangays on basis of malaria prevalence.

12. Nutrition and Health

Probably rank municipalities with just the nutrition and health variables (excluding wealth and more indirect measures).

Results of the analysis are summarized in Document No. 7 (Nutrition: Clusioix PIADP Feasibility Report) of this Report. The following main highlights of the findings and conclusions are derived:

1. In terms of the population groups and areas, the following are considered most nutritionally deprived, using prevalence of pre-school children undernutrition (2nd and 3rd degree) as the "need" and "ranking" indicator.

<u>Priority Groups and Areas</u>	<u>Incidence of Child Malnutrition^{1/}</u>	<u>Nutrition Priority Ratio^{2/}</u>
1. Narra and Aborlan: Kaingin Farmers	40.7%	1.70
Narra: Rainfed Lowland Farmers	46.9%	1.96
Aborlan: Self-employed and Wage Earners	36.7%	1.53
2. Narra and Aborlan: Lowland Areas	36.0%	1.50
Narra and Bataraza: Coastal Areas	37.3%	1.56
3. Sustenance Fishermen	24.0%	1.01 (1.18)
4. Tribal Minorities	High	High

^{1/} Percent of second and third degree malnourished among pre-school children.

^{2/} Ratio of malnutrition prevalence in the group over the provincial average.

^{3/} This NPR used calorie intake as indicator.

2. The slash-and-burn farmers, particularly those in Narra and Aborlan need particular project attention in the plans because the nutritional status is shown to be almost twice as bad as the provincial average.

Among all Palawan farmers, however, there seems to be no difference in nutritional status. The kaingin farmers are not more malnourished than the settled farmers, as we had thought earlier. Some pockets for malnutrition among slash-and-burn farmers in Narra and Aborlan, must however be considered in planning.

3. It appears that irrigated farmers were not better off than the rainfed farmers. This is a unique situation. Probably, the potential advantage of agricultural productivity in irrigated areas might be offset by increased exposure to malaria, of which Palawan has the highest prevalence in the country. Irrigation canals have running water, ideal breeding places of malaria mosquitoes. Malaria infection in turn can affect nutritional status.
4. For the farmer beneficiaries, the results show that the direction for improving nutrition may be more effective if PIADP components on lowland agriculture are targetted to small landholders (less than three hectares). The nutritional status of farmers with small landholdings are found (not surprisingly) to be worse than bigger farmers.

Actual ownership does not appear to be related to nutrition. What is important is the actual amount of land cultivated. For those growing rice, the size of area cultivated is not associated with nutritional status. However, if the total area cultivated for all crops are considered, those with > 3 hectares are better off than those with < 3 hectares. It seems that increased production of non-rice crops is positively associated with nutritional status, but cultivating with more rice is not.

5. The fishermen groups, particularly the sustenance groups, were found to have the lowest calorie intake among all occupational classes. Special attention with respect to project activities will be needed for this group. Most of the small fishermen have poor housing (76.9 percent with one room); poor sanitation (85 percent with no toilets); with high mortality (21.5 percent); and morbidity (34.6 percent).
6. Water source is found to be strongly linked with nutritional status. Thus, improving water supply would greatly improve the chances for better nutrition. Households dependent on springs and rivers have higher prevalence of pre-school mal-nutrition than those with artesian and piped water.

General Methods of Nutrition Assessment

Our task of systematically incorporating nutrition concerns into a project planning process is guided by some working hypothesis on the causality of malnutrition in the poor countries, namely:

- i. That malnutrition problems of a large majority of the Third World population are caused by a shortage of food supplies and inadequate food demand, which are exacerbated by diseases reflecting poor community environment and services.
- ii. Within this framework, the potential nutrition impact of development projects can be defined by the following effects:
 - a. output effects, or the impact of increases or decreases in the food supply;
 - b. income and price effects, or the probable changes in food demand as a result of increases in purchasing power and relative food prices; and
 - c. environmental effects, or the impact on health and environmental factors such as water, housing, sanitation, fuel and communications.
- iii. Therefore, in order to exploit the potential of development projects to improve nutrition, the following basic strategies need to be incorporated in project planning.
 - a. the plan/project should improve food supply, at the very least should not disrupt food security or distort food prices in an area;

- b. the plan/project should be targetted to the nutritionally disadvantaged population groups, in order to increase purchasing power, i.e. effective demand for food; and
- e. the project should consider its probable impact on the environment and where feasible, should incorporate features that would improve water supply, sanitation, fuel and communications.

Incorporating Nutrition Findings and Planners Responses

In the deliberations for the designs of PIADP inputs, outputs and activities, the FNP team is able to submit the various findings and recommendations that are relevant for the improvement of nutrition and food consumption. Majority of the recommendations are based on the survey findings; others are based on general nutrition knowledge and experience in similar program situations in other countries.

Of the 22 ADB consultants hired to undertake project preparation, the FNP team has greater inter-action and exchange of ideas with the project leader (an agronomist), the agriculture planners, and the project economist. Because of the unusually large number of components (12), the work by individual consultants are rather diffused. To simplify the deliberation process, our FNP team specifically addressed our proposals and recommendations to the project leader and project economist.

A good number of the nutrition recommendations are being considered by the consultants in deciding project input, scope and activities. Many are however seriously challenged on technical grounds. For instance, soil and land capability criteria take precedence in deciding location of agriculture programs.

The following table is a matrix illustrating the major recommendations based on survey and general nutrition knowledge, the actual responses and attitudes of the project planners, and the final outcome of the process.

INCORPORATING NUTRITION SURVEY FINDINGS AND RESPONSES

SURVEY FINDINGS/CONCLUSIONS AND RECOMMENDATIONS	: RESPONSES/ATTITUDES OF PLANNERS AND CONSULTANTS	: FINAL OUTCOME
<ul style="list-style-type: none"> Certain population groups and municipalities have significantly higher rates of malnutrition. These groups listed in Document No. 7 are proposed as target groups for project investments. Reference: Document No. 7 	<ul style="list-style-type: none"> Location of project sites for upland and lowland agriculture components are mainly based on soil and land capability. Certain adjustments can, however, be made in locating specific villages for project investments to reflect 'need' based on nutritional deprivation. For instance, slash-and-burn farmers in the municipalities of Narrra and Aborlan will be priority groups in the upland agriculture components. Small sustenance fishermen are targetted for credit and technical assistance. 	<ul style="list-style-type: none"> Half of all recommended sites are accepted in the project plan. The rest remain "gray areas" because of conflict with technical criteria, e.g. soil and land capability. Reference: Document No. 8
<ul style="list-style-type: none"> Farmer groups with less than 3.0 hectares cultivated are generally worse-off than those with greater than 3.0 hectares. Therefore, lowland and upland agriculture should be also selectively targetted (where technically feasible) to small farmers. Reference: Document No. 7 	<ul style="list-style-type: none"> The "small farmer" criteria cannot be generally applied. The agriculture planning process uses technical criteria as first filter, that of land potential. The "small farmer" criteria can apply in the second filter; that is, having defined the potential cultivable land, the question of beneficiaries is determined. 	<ul style="list-style-type: none"> The issue is to be decided during the detailed engineering and design stage. However, "small farmer" criteria still remains.

SURVEY FINDINGS/CONCLUSIONS AND RECOMMENDATIONS : RESPONSES/ATTITUDES OF PLANNING AND CONSULTANTS

: FINAL OUTCOME

- Irrigated rice farmers were not nutritionally better-off than rainfed rice farmers. In Palawan, it is theorized, that the potential advantage of agricultural productivity in irrigated areas might be offset by exposure to disease in particular, malaria. Palawan is a malaria endemic area. Malaria mosquitoes breed in running water, such as in irrigation canals, rivers and creeks in irrigated areas.
- Recommendation: environmental components to include malaria control in irrigated areas must be undertaken. This illustrates that nutrition improvement measures could be better achieved if accompanied by environmental improvement measures.
- Reference: Document No. 7 and 10

- Issues raised are to be included in the comprehensive irrigation - malaria control studies.

Reference: Document No. 7

- Malaria control would be one of the main components (with a budget line). The original proposal on malaria control, however, is in relation to overall malaria program. Nevertheless, issues raised with regards to potential dangers in irrigation canals would be among those for investigation
- Lowland agriculture component will not only deal with rice, but also with the intensification of coconut and corn production, with inter-cropping. This strategy jibes with the original plan.
- Intercropping is adopted in lowland agriculture.

Reference: Document No. 8

Reference: Document No. 7 and 10

SURVEY FINDING/CONCLUSIONS AND RECOMMENDATIONS : **RESPONSES/ATTITUDES OF PLANNING AND CONSULTANTS** :

- Small, non-boat owning fishermen have extremely low food consumption levels. About 61.3% of these subsistence fishing families consume less than 1500 kcals per day, about 400 kcals short of the required levels. Attention for this groups is imperative.
- Reference: Document No. 7

- Design of fishery component will give attention to subsistence fishermen, thru credit, motorization and fishing gear improvement.

Reference: Document No. 7

- Households dependent on spring or river for water supply have higher prevalence of pre-school malnutrition than those with artesian or piped water. Springs and rivers are often contaminated; use of this water perpetuates cycle of malnutrition and infection. Hence, strong water supply component is required to achieve nutrition goals.
- Reference: Document No. 7 and 10

- Prioritization of areas & location for water points; use nutritional status as one of the criteria.

Reference: Document No. 7

- Construction of 150 units of deep wells; rehabilitation of 40 existing wells will be implemented. The water supply component is one of the main project inputs.
- For upland areas, the PIADP soil specialists and agronomists do not recommend crops that would involve plowing and harrowing (like rice and corn) and uprooting crops like cassava, peanuts, and vegetables like pechay, onion, cabbage, potatoes and camote, because they destroy soil stability in fragile upland areas that support the watershed, e.g. it is ecologically harmful.
- Food crops that do not endanger upland soil will be selected in the detail designs. Candidates are fruit-bearing vegetables eggplant, tomatoes and beans. Also vines with vegetables like squash, winged bean and string be
- (Issues not directly derived from survey, but the based on general knowledge)
In upland agriculture, component crops like cashew, cacao, rubber and coffee are proposed for propagation in upland resettlement areas. The FNP team warned the planners of possible negative impact on food security resulting from shifts from

**SURVEY FINDINGS/CONCLUSIONS
AND RECOMMENDATIONS**

**RESPONSES/ATTITUDES OF PLANNING
AND CONSULTANTS**

food to cash crops in far-flung areas. Thus the FNP team recommended inter-cropping with food crops like corn, cassava and vegetables to obviate food problems.

Reference: Document No. 7

- Specific sub-groups of the population and certain villages have dangerously bad state of nutrition and low food consumption. Short-term interventions like feeding nutrition education and health protection are needed. Therefore, it is proposed that the ADB loan should cover specific nutrition components.

Reference: Document No. 7

FINAL OUTCOME

- It was decided to expand existing Philippine Nutrition Program components being implemented in Palawan.
- ADB does lend money on productive projects with proven economic viability. It cannot cover special projects like direct consumption loans (e.g., feeding). It is proposed that the Philippines government bear the cost of these components.

Reference: Document No. 7

Quantifying Nutrition Benefits

To formally incorporate nutrition as one of the criteria for project analysis, the FNP team feels that some nutrition evaluation indicators should be used alongside those used by economists (IRR, B/C ratios, NPV) in economic evaluation. For this project, we are experimenting on the use of an indicator for assessing potential nutrition benefits of the project. The nutrition benefit assessment provides indications on the extent to which nutrition goals are achieved vis-a-vis other project evaluation criteria, like economic rates of return, benefit-cost ratios, etc., and the extent of the trade-offs among these criteria.

Our attempt to quantify nutrition benefits of PIADP is made using the "food consumption" variable. Nutrition benefits are expressed in terms of changes in food consumption, measured in kcalories, brought about by changes in incomes of the target groups. Upgrading the income of a target group corresponds to increases in calorie intake, as shown by the positive income elasticity of demand for food energy. There is, likewise, reason to suppose that nutrition would probably improve with increased incomes since wealthier households have been shown to have better nutrition. While food consumption in terms of changes in calorie intakes may not capture all the dimensions of benefit, its use as a measure of benefit appears practical because:

- 1) there exists fairly reliable methods for quantifying calorie intakes; and
- 2) food consumption is far superior to using "nutritional status" in terms of anthropometric measurements since the nutritional

status is affected by a number of intervening factors and is thus too imprecise for planning.

The use of the technique requires the following sets of data:

1. kcalorie consumption broken down by functional poulation groups;
2. income elasticity of demand for food-energy (calorie); and
3. projected rate of increases in real income arising from the project.

Results on Nutrition Benefit Assessment. The overall impact of PIADP would, on the average, result in net increase in intakes of 88 to 176 kcalories per person per day in five years for the entire province. The present average (1979) intake is about 1,764 kcalories per person per day. The impact would, however, vary among the different areas and among population groups, depending on the level of outreach and project participation. For instance, if an irrigated lowland farmer participates in the project, it is predicted that a 10 percent annual increase in his income would increase his daily calorie intakes from the 1979 level of 1801 kcals to 1981 kcals in five years, which is about sufficient to meet RDA. On the other hand, a sustenance fisherman, with present average intake of 1491 kcalories, would still experience a 150-kcal deficiency in the diet even if he participates and gains 10 percent annual increases in his income from the project. Estimates of nutrition benefit of various project designs would, therefore, give quantification of how the nutrition goals may be more effectively achieved, and assessing such effects against the degree to which other goals (economic efficiency, etc.) are met.

Resources Utilized at Project Preparation/Analysis Phase

Personnel

In addition to the original FNP team, new specialists are contracted to perform the various tasks of this phase . They include a sociologist: to undertake attitudinal and sociological study of various occupational groups; a regional planner: to investigate project design features that bear on nutrition and food consumption; and agriculture economist: to assist in analysis of food consumption data; 4 survey supervisors and 32 survey interviewers; and a programmer/statistician: to carry out data processing.

The FNP team also includes FAO consultants;namely: a nutrition planner, whose role is to advise the team on FAO methods and an economist, to advise on data analysis of the survey.

The qualifications and experience of the specialists are given in Annex 1. Indicated below are actual person-months inputs in the process.

<u>PERSONNEL</u>	<u>PERSON-MONTHS (actual)</u>
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Local

1 Economist (Team Leader)	4.0
1 Nutrition Planner	4.0
1 Sociologist	1.0
1 Regional Planner	1.0
1 Agriculture Economist	1.0
4 Field Survey Supervisors	8.0
1 Programmer/Statistician	1.5
32 Survey Interview	32.0

FAO Consultants

1 Nutrition Planner	1.5
1 Economist	1.0

Cost of Resources for the Project Analysis Phase

Annex 2 summarizes the various cost items needed in carrying out this phase. This includes expenses for personnel, travel, per diem, and computerization. The consultant's cost is the largest item of expense at this phase.

Phase III. Project Appraisal and Review
(May to August 1981)

The Setting

The draft report of the feasibility study is submitted to the ADB and Philippine Government (October 15, 1980). The nutrition considerations are covered at various points of the six-volume report. A 27-page annex on nutrition prepared by the NNC-NORDPLAN team forms part of the Main Report. This is reproduced as Document No. 7 of this paper. The nutrition annex essentially spells out the food and nutrition situation, problems and recommendations.

The scope of project investments is finalized (April 1981) after a series of revisions, resulting from comments of participating agencies in the project.

The ADB finally appraises the project (May to August 1981); this is carried out by a six-man mission.

The appraisal process is designed to define the scope of the proposed ADB loan for Palawan. On September 29, 1981, ADB's board of directors approved the Palawan loan. On October 12, 1981, the Philippine Government and ADB formally signed the loan agreement. The final scope of the project is spelled out in Document No. 9. Total cost is estimated at \$85 million; ADB will finance \$32 million and the rest will be by government counterpart funds. Grants totalling \$4.20 million will be given by the European Economic Community for various components.

Response/Attitudes of Bank Appraisal Team

The bank appraisal team is generally receptive to the recommendations and issues raised by the nutrition group. The experiment in using nutrition criteria alongside the traditional tools of technical and economic evaluation is something new to the appraisal mission.

The appraisal team, however, emphasizes that the PIADP is first and foremost a production-oriented project designed to raise production, income and living conditions of Palawan's population. Incorporating the nutrition criterion in terms of project targetting and choice of agricultural crops is an important step; but such an orientation should be carefully balanced with the economic objectives, so that the rates of return on the project would pass the grade for ADB loans.

Target Groups. The appraisal team recognizes the need to address the Palawan project components to the groups identified in the nutrition analysis. The lowland agriculture component is intended to improve rice, coconut, and corn farming systems in the most needy areas of Bataraza, Aborlan, Narra and Brooke's Point. However, the proposal to target projects to smaller farmers is accepted as one of the guidelines in project implementation. For upland agriculture, the target groups are the slash-and-burn farmers and the cultural minorities. The upland programs are necessary because other program components (roads, irrigation) are unlikely to reach these people.

Crop Emphasis. The appraisal team recognizes the nutrition sector's findings on the need to balance food and cash crops in the agricultural

diversification and intensification programs. It is to the FNP team's credit that vegetables are being emphasized as one of the crops for promotion in the program because of Palawan's under-production of green leafy vegetables and legumes. The project would help develop multi-storey cropping of coconuts, coffee, cacao, pepper and annual crops like corn, mungbeans and peanuts by providing suitable planting materials, extension and training. The farmers would also be provided with credit for developing multi-storey cropping, vegetable growing and improving areas under coffee and cashew.

Decision on crops to be promoted in upland areas is withheld, pending detailed analysis of soil conditions. The higher slope upland areas will be covered by an upland stabilization program which would test upland crop technologies.

The Fishery Component. It is the view of the appraisal mission that the fishery component be deleted from the loan package. Project preparations of this component is not satisfactory at the time of the appraisal, and therefore excluded from the first loan package for PIADP. Our findings relating to the extremely low food intake of sustenance fishermen are however noted by the appraisal mission. (The Philippine Government has recently launched a nation-wide fishery development program for small fishermen, including credit for gears and nets.)

Drinking Water Supply. Our strong lobby for this component led to an even more expanded scope of the water supply component. The Program would rehabilitate all existing sources of water supply (where feasible), and develop suitable springs, install shallow and deep wells,

and introduce sanitary measures which will ensure the provision of potable water to rural population in the main project area. The source to be developed would depend on the population within the area to be served, hydro-geological conditions and water quality. Selection and prioritization would consider the presence of malnutrition problems in particular areas.

Irrigation and Malaria. The issue is not so clear with the appraisal team. Our findings conclude that nutritional status of irrigated is not better than non-irrigated areas, probably because of infection due to malaria presence in irrigated areas. The potential benefits from increased production in irrigated areas are probably negated by the effect of the disease on the population. The issue is however being tested for more detailed investigation during the detailed engineering and design stage of the irrigation canals and dikes.

Nutrition Components. Based on ADB instructions, specific nutrition components (like nutrition education, supplementary feeding program, extension) are not included in the project; these have been included in the on-going Philippine Nutrition Program. PIADP would concentrate on components with clear economic justification, but at the same time have high potentials for nutrition improvement, like agriculture.

Resource Used at Appraisal/Review Phase

Personnel

Three FNP team members participated during the appraisal phase of the project, namely: the economist (myself), the NNC nutritionist and

the FAO consultant on nutrition planning. The task at this stage is mainly to present and discuss nutrition issues with PIADP office and the ADB appraisal team.

Travel.

The expenses for travel are mainly the air travel of the FAO consultant and the 2 trips to the project area.

Resource Cost

A cost analysis and summary of the actual expenses for this phase is given in Annex 2.

Main Issues

The most outstanding problem in the appraisal stage is the lack of commitment of the appraisal team members to nutrition and social goals. Since the members are unfamiliar with methods like nutrition assessment, their reactions to the issues advanced by the FNP team are generally unclear. Some team members, particularly the ADB economist, however, feel strongly for the use of some form of social criteria, in addition to the regularly used criterion of rates of return and technical feasibility.

Lending institutions are by nature economic-viability-oriented. They are banks, and therefore, survive on the ability of borrowing countries to repay the loans. Social orientation of projects is therefore difficult to submit as an issue in loanprocessing. The issues, however, are recognized as legitimate, and considerations for these should not render the projects uneconomical.

The results of the appraisal and review of the project have proven that the effectiveness of inclusion of nutrition considerations in the design of projects depends not only on the ability to make technical judgements on the trade-offs between nutrition effects and other project goals, but also on a strong commitment by decision makers to pursue nutrition objectives. Sometimes lower but acceptable economic rates return on the project might result from changes in project design that imply large nutritional gains.

Phase IV: Project Monitoring and Evaluation Design
(October to December 1981)

The Setting

The signing of the loan agreement between ADB and the Philippine Government on October 12, 1981 set in motion the implementation of the project activities. The activities at this phase include: detailed engineering and designs of the infrastructure components (roads, ports, irrigation, water supply), detailed planning for agriculture components, and the organization of field offices to carry out monitoring and supervision activities.

The task of the FNP team at this stage is to prepare a system for nutrition monitoring and evaluation. The purpose of this system is to assess whether the objectives and planned targets for nutritional improvement are met alongside other project goals. The system will provide the project management office and policy makers with the appropriate handles to align project plans (during implementation) and designs towards the nutrition and other objectives of the project.

The ADB loan includes an "Environmental and Project Benefit Monitoring and Evaluation" component (Refer to Document No. 9). There are two main sub-components, namely:

- 1) integrated environment program; and
- 2) project benefit monitoring and evaluation.

The nutrition aspects are incorporated as the "nutrition module" of the project benefit monitoring and evaluation system.

Design Features of the Nutrition Module

The nutrition monitoring and evaluation module seeks to measure progress against project objectives relating to nutrition. There are two types of evaluation activities that would be relevant with the implementation of the Palawan development projects, namely on-going evaluation and ex-post evaluation. On-going evaluation is the continual analysis during project implementation of the project outputs, effects and impacts. The purpose of the on-going evaluation is to provide project management and policy makers with an analytical support that might be necessary to enable them to assess, and if required, adjust policies, project design, and resources affecting nutrition during project implementation. Ex-post evaluation on the other hand refers to an analysis after completion of the project of its impact and effects. It draws information provided by monitoring and on-going evaluation, although supplementary special studies are also needed. The main aim of ex-post evaluation is to provide policy makers information and analysis for future planning and/or inform the public on the project results.

Key Indicators. Our survey experiences at the project preparation phase proves helpful in determining the key indicators that will form part of the nutrition module. The indicators that we propose to include are:

1. Nutritional Status (Anthropometric Measurements)
 - . Pre-school children's weight-for-age
 - . School entrants' height-for-age

2. Food and Nutrient Consumption (By 24-hour food recall)
3. Health Indicators
 - . Proportional Mortality of Children (Ages 1-4)
 - . Morbidity Rate
 - . Infant Death Rate
 - . Birthweight Below 2.5 kg.
4. Sanitation Indicators
 - . Source and Distance of Drinking Water Supply
 - . Toilet Facilities
 - . Garbage Disposal System
5. Wealth Indicators (Proxy for Income)
 - . Housing (Type, Number of Rooms Roof Material)
 - . Livestock Ownership
 - . Children's Education
6. Health Services
 - . Physicians Per 10,000 population
 - . Number of Rural Health Units
7. Prices of Critical Food Items

Data Collection Methods

The indicators are to be collected on the target groups of the project (e.g. in PLADP project areas).

For measurement of nutritional status, two main anthropometric indicators are selected, namely: weight for age of pre-school children and the height of school entrants. Weight for age of preschool children is the most commonly used indicator in the Philippines and there are

normally collected in an annual nationwide weighing program called Operation Timbang (OPT). For purposes of this system, special weighing of pre-school children will be conducted in a sample survey of the target groups of the project. The second measurement, height of grade one (school entrants) pupils will be collected from school records. The schools conduct measurements at the beginning and at the end of the school year. Height of school entrants tend to reflect childhood malnutrition. Episodes of past childhood malnutrition can be reflected in the stunting of grade one children.

Food and nutrient consumption data will be collected in a sample survey to be carried out in a household survey that covers the other indicators of the system. A 24-hour food recall will be used. The food consumption data will be used to assess impact on food/nutrient consumption levels. It may be recalled that kcalorie intake is one of the main evaluation parameters in our process. Income elasticity of demand for food energy (measured in kcalories) is used as a predictor for future levels of energy intake, given income growth rates.

Health indicators are selected, based on their sensitivity to nutritional status. These data are to be collected from the municipal registry and clinic records. Data on health services, like physicians and rural health units, would be taken from the Municipal Health Office.

Sanitation indicators would be taken as a variable in the household survey. Water supply is particularly sensitive to nutritional status.

For income, proxy indicators are chosen because of the known unreliability of income surveys. It is common to select indicators or proxies which are substitute for a concept. Such indicators are not as complex as the concept itself; thus, simple, unobtrusive, and easily observable data points can be used, but the meaning of the indicators can change with time and place. This suggests that multiple indicators should be used to minimize incorrect inferences. We chose three proxy indicators for wealth, namely: housing (type number of rooms and roof material), livestock ownership and children's education. These have been tested in our earlier surveys. We propose to collect these as variables in the household surveys.

Prices of critical food items will be collected from the local office of the Bureau of Agricultural Economics. Food intake is sensitive to food prices.

The modes of data collection that will be used are:

1. By household survey of the project area. Sampling plan will be coordinated with the PIADP Unit in charge of monitoring and evaluation. This will permit possible merging of data files.
2. By collection from routine statistics in the project areas (e.g. health clinic, school reports, etc.)
3. Retrieval from monitoring reports on project activities of PIADP.

The table below summarizes the various indicators and the methods and frequency of collection.

Table
Nutrition Monitoring and Evaluation Module
Palawan IAD Project

INDICATOR	: COLLECTING AGENCY : OR PROCEDURE	: LEVEL	: COLLECTION : FREQUENCY
1. Nutritional Status . Weight for Age (0-6 yrs.)	By Household Survey and OPT	Household	OPT-Annual Survey Mid-Project and End of Project
. Height of School Entrants	Ministry of Education from School Records	School District by Child	Annual
2. Food/Nutrient Consumption	By Household Survey by Food recall	Household	Mid-Project and End of Project
3. Health			
. Proportionate Mortality of Children (Ages 1-4)	Records from Rural Health Units	Barangay	Annual
. Morbidity (Diarrhea Frequency etc.)	Records from Rural Health Units	Barangay	Annual
. Infant Death Rate	Municipal Registry and Rural Health Units	Municipality	Annual
. Birth weight Below 2.5 kb.	Rural Health Units	Municipality	Annual
4. Wealth Indicators			
. Housing Type, Livestock Ownership, Children's Education	By household Survey	Household	Mid-Project and End of Project
5. Sanitation Indicators	By household Survey	Household	Mid-Project and End of Project
6. Health Services	Records of Municipal Health Office	Barangay	Annual
7. Food Prices	Price Reports from Bureau of Agricultural Economics	Municipality	Monthly

Responsibility for the Data Collection and Analysis

The overall responsibility for data generation and analysis lies with the PIADP Office, specifically its "Project Benefit Monitoring and Evaluation Unit" (PBMEU) which will be established as requirement by the donor agency. The National Nutrition Council, however, will supervise the data collection/analysis process for this module. NNC shall contribute counterpart staff during the evaluation process.

Issues addressed in Monitoring and Evaluation

The table below lists some issues that are relevant to nutrition during the implementation of the monitoring and evaluation system of the Palawan Project.

<u>Question</u>	<u>Output from M/E System</u>	<u>Planning Implication</u>
Is the overall nutrition, and health condition of the target population improving or deteriorating?	Data from new survey vs. baseline	If improving, review relative rates, if general deteriorating, need for concern and probable changes in project design.
Is the trend similar for all groups?	Data disaggregated by functional groups.	Targetting of projects, also realignment.
What are the characteristics associated with this difference in trend?	Data disaggregated by functional groups.	Identification of causes, i.e. interventions, re-alignment of projects.

Resources Used in Monitoring/Evaluation Phase

Personnel

The specialists involved at this stage include:

	<u>Time-Cost</u>
Economist	2.0 person - months
Systems Analyst	1.5 person - months
Nutritionist	1.0 person - months
Statistician	1.0 person - months

These specialists are contracted by NNC through normal contracting procedures. See Annex 1 for the qualifications.

Travel Expenses.

The cost for travel and per diem covers the expenses for collecting and validating baseline data from the project. The installation of the system requires that baseline data used at project preparation phase be organized. These data will be the main baseline against which future evaluation will be made. Refer to Annex 2.

RESUME' OF QUALIFICATIONS OF FOOD AND NUTRITION
PLANNING TEAM

PHILIPPINES PERSONNEL

M. GARCIA (Economist-Consultant to NNC-FAO)*

Mr. Garcia is the FNP team leader, and was contracted by NNC-FAO to carry out the design and pilot test of methods in incorporating nutrition in development projects. He is mainly responsible in establishing a methodology called NORDPLAN (Nutrition-Oriented Development Planning), which initially tested these methods in the Samar Integrated Rural Development Project. As NNC consultant, Mr. Garcia participated in the preparation of the First [National Food and Nutrition Plan (WB), and Food Subsidy Project. Before becoming an NNC consultant, Mr. Garcia was for 4 years chief economist in the Planning and Project Development Office (PPDO) of the NEDA and Ministry of Public Works, Transportation and Communications. His project preparation experience covers integrated area development, agriculture, irrigation, roads, ports and urban development. Mr. Garcia has extensive experience in economic evaluation, with applications in social cost-benefit analysis of agriculture and infrastructure projects. Most of his experience are concentrated in foreign assisted projects like WB, FAO, ADB, OECF (Japan).

Education and Training: MA in economics, University of the Philippines (1973); Dip. in Development Planning at the Institute of Social Studies (1975), The Hague, Holland and Diploma in Urban/Regional Planning at the University of Oslo, Norway (1976).

M. SISON (Nutritionist)*

Ms. Sison is an MS Nutrition Degree holder from the University of the Philippines (1979). Prior to her work at the Palawan Project, she was involved in the NNC project with Samar Integrated Rural Development Project as a member of the NORDPLAN team. She was involved in anthropometric measurement surveys, data analysis and interpretation. As a nutritionist she is responsible for the analysis of food consumption and nutrition data generated from surveys. Ms. Sison also participated in the preparation of the WB sponsored First National Food and Nutrition Plan.

A. DE DIOS (Sociologist)**

Mr. De Dios has an MA in Applied Sociology and Anthropology from Ateneo de Manila (1971) and has a certificate in rural organization at the Pei-ta University in Peking (1969). Mr. de Dios has a 10-year experience in various social surveys and social systems studies in the Philippines; in such projects like Cotabato-Agusan River Basin Progra, Cagayan Integrated Rural Project, Northern Samar IAD Program, Impact Assessment of Rural Development Projects in the Philippines.

Mr. de Dios' role in the Palawan Project is of critical importance in understanding social behavior and attitudes towards food and nutrition, and in defining appropriate interventions.

C. FERGUSON (Agriculture Economist)***

Ms. Ferguson has a BS in Economics (1977) at Standford University (CA., U.S.A.) She worked as data analyst at the Samar IAD Project (World Bank) and with the food subsidy project being developed at the National Nutrition Council. Ms Fersugon assisted in the development of the survey questionnaire and later in the data analysis. She assisted in the implementation of the survey.

EXPATRIATE TEAM MEMBERS

J. MASON (FAO Nutrition Planning Officer)*

J. [Mason has a PhD in Biochemistry from Oxford (1968). He joined FAO in 1974 and was responsible for various areas in nutrition surveillance and planning at the Food Policy and Nutrition Division. (He is presently the Director of the Cornell Nutrition Surveillance Program, Ithaca). Dr. Mason has extensive country experience in nutrition planning in the Philippines, Kenya, Zambia, Haiti and Uganda. Dr. Mason was mainly responsible for the development of activities in the incorporation of nutrition in agriculture and rural development projects in FAO. Dr. Mason participated as advisor and consultant in all phases of Palawan's activities.

J. HITCHINGS (Economist)**

J. Hitchings has a PhD in economics from Stanford University (1979). He was hired by FAO to assist in data analysis of Palawan for a period of one month. Prior to this, Dr. Hitchings was responsible for analysis and interpretation of anthropometric and socio-economic indicators in Kenya. He was worked with the NEG of the USDA. Dr. Hitchings role was to investigate the date from the survey and advise on its processing and analysis.

NOTE

*Participated in the entire planning process.

**Participated at the data analysis phase only.

***Participated during the survey only.

****Participated during data processing only.

LIST OF REFERENCES

- ADB Memorandum of Understanding Between Government of Philippines and Bank
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- FAO Guidelines for the Introduction of Nutritional Considerations Into
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- FAO Guidelines and Basic Methodology for the Introduction of Nutritional
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- Garcia, MH. Palawan Case Study. Summary. Consultant's Report to FAO
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- Garcia, MH. Integration of Nutrition Criteria in Development Planning.
Paper for the Regional Training Programme on Food and Nutrition
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- Hitchings, J. Mission Report on Palawan Project. FAO Rome. April 29, 1980.
- Levinson, J., Incorporating Nutrition Into the Palawan Integrated Area
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- NACIAD Palawan Integrated Area Development Project Phase I Executive
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- NNC/FAO/Nutrition Aspects in the Planning of Palawan IAD Project. Manila,
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- NORDPLAN/NNC/FAO/Inception Report: Nutrition, Palawan Integrated Area
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- NORDPLAN/NNC/FAO/Palawan Integrated Area Development: Nutrition, Project
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- SATEC/GIRD/NACIAD/Palawan IAD Project Feasibility Study, First Stage Report.
October 1980.

OUTLINE DEBRIEFING ON TRIP
TO PALAWAN

1. Purpose: To become familiar with the project area of the Palawan Integrated Area Development Project in order to create training materials for an in-service training course for USAID agricultural and rural development Officers on the food consumption and nutrition impacts of projects. To develop audio visual materials based on pre-project Palawan agricultural and rural conditions.

2. Persons Contacted:

USAID: PHN Staff & ORAD Staff

Mrs. Delfina Aguillon, NNC

Mr. Marito Garcia, NNC

Mrs. Socorro Tan, Palawan Provincial Nutrition Action Officer

Mrs. Yolene Palanca, Puerto Princesa Municipal Action Officer

Mayor Feliberto Oliveros, Puerto Princesa City

Mr. Teofilo Tan, Palawan Provincial Assistant Agricultural Officer

Mr. Noel de la Cruz, Plant Pest Control Technologist

Mr. Ben Goan, Project Director, Palawan IADP

Mr. Angel Padon, Puerto Princesa City Development Coordinator

Mr. Rogelio Teguillo, Palawan Provincial Economic Development Coordinator

Mr. Ernesto M. Diao, Economic Researcher, National Food Authority, Puerto Princesa

Mrs. Felicidad Grande, Barangay nutrition scholar

Mr. Reu Peneyra, Municipal Agricultural Officer, Narra

Mr. Arturo Monakil, Plant Pest Control Worker, Narra

Dr. Art Carlos, Philippines City Service, Inc., Puerto Princesa

Staff, PAL Airlines

3. Itinerary

4. PIADP Components

5. Nutrition Considerations

6. Management/Institutional Issues

5. THE MAIN AREAS WHERE THE NNC
SURVEY WAS USED WERE:

IRRIGATION

AGRICULTURAL INTENSIFICATION & DIVERSIFICATION

ROADS

POTABLE WATER

PROJECT IMPLEMENTATION 1982-1988

6. PHASE II DESIGN IS NOW CONTEMPLATE

7. MANAGEMENT / INSTITUTIONAL ISSUES

A. 8 teams - 7 ministries plus NACAD
every 2 weeks hold proj. exec. committee
meeting / report achievements & plans
B. every month - regional coordination
committee - more decision-making power

8. RURAL SERVICE CENTER CONCEPT

TREE NURSERIES

Demonstration UPLAND TECH.

EXTENSION WORKERS

CREDIT TECHNICIANS

COST ANALYSIS OF THE FOOD/NUTRITION STUDIES/
ACTIVITIES PALAWAN IAD PROJECT

This short note is intended to summarize the total cost of resources that was needed in incorporating nutrition in the entire planning process of Palawan IAD project, and relate this to the overall cost of project investments as well as the cost of project preparation itself. The purpose of this is to determine the possible range of resource cost to guide future undertaking of similar activities.

Summary Table

Table 1 (see Detailed Table)
Actual Cost of Incorporation Process

<u>Personnel</u>	<u>US Dollars (1981)</u>	<u>Percent to Total</u>
Local	\$ 29,100	33.8
Expatriate	24,000	27.8
Survey	12,500	14.5
Data Processing	14,500	16.8
Other Operating Expenses	6,000	7.1
	\$ 86,100	100.0

Table 2
Comparative Cost Analysis

COST ITEMS	Actual Cost in 1981 US Dollars
• Food/Nutrition Study Activities in Palawan (Table 1)	\$ 86,100
• Project Preparation (Feasibility Studies) of Palawan IAD Project, derived from ADB Technical Assistance and Philippine Government Counterpart	\$ 826,000
• Detailed Design, Planning and Engineering of Palawan IAD Project	\$ 2,550,000
• Total Investment of Palawan IAD Project (1981-88) 37% Financed by Asian Development Bank Loan	\$85,000,000

Table 2a
Comparative Cost Analysis: Palawan Project

The cost of the Food and Nutrition
Study and Activities:

- As a Percent of the Total Feasibility Study Cost 10.4%
 - As a Percent of the Detailed Planning, Designs and Engineering Cost 3.30%
 - As a Percent of the Total Project Cost 1/10 of 1%
-

Compared to the total feasibility study cost, the nutrition study appears rather high at 10% of total expenses. If the nutrition study is however replicated in future project preparation, substantial reductions in cost can be made; probably only a third of the cost of the Palawan exercise. It should be noted that the testing of the methods are under experimental conditions; for instance, a micro-computer was acquired, etc.



Cost Analysis: Incorporation of Nutrition
in Palawan IAD Project (1981 Prices)

1.0	<u>Personnel Expenses</u>	<u>Actual Person-Mos.</u>	<u>Rate/Month</u>	<u>Cost</u>
<u>Local</u>				
Economic (Contract consultant)	7.0	-	\$ 2,500	\$17,500
Nutritionist (NNC)	6.0	-	600	3,600
Sociologist (consultant)	2.0	-	1,700	3,400
Regional Planner (consultant)	1.0	-	1,700	1,700
Agriculture Economist (Research Assistant)	2.0	-	600	1,200
Programmer/Systems Analyst	1.0	-	1,700	1,700
		Sub-Total		<u>\$29,100</u>
<u>Expatriate Consultants</u>				
Nutrition Planner (FAO)	3.0	\$6,000 (Incl.	18,000	
Economist-Data Analyst (FAO)	1.0	6,000 Int'l Travel & Per Diem)	6,000	
		Sub-Total		<u>24,000</u>
		TOTAL PERSONNEL COST		53,100
2.0	<u>Food/Nutrition/Socio-Economic Survey</u>			
Field Supervisors (4) each 6 person-months	each \$300/		\$ 1,800	
Field Enumerators (32) each 32 person-months	each \$200/		6,400	
Inland and Sea Travel			2,800	
Supplies, Materials and Miscellaneous Expenses			1,500	
		TOTAL SURVEY COST		<u>\$ 12,500</u>

3.0 Data Processing Expenses

A.	Acquisition Cost: Micro Computer (Commodore PET) Peripherals (Diskette Drive, Tape, Printer)	\$ 7,500
	Software Development Cost	1,500
B.	Computerization at UNIVAC 1100/10 (Coding, Data entry, CPU Time and Programming)	5,500
	TOTAL COST OF DATA PROCESSING	\$ 14,500

4.0 Other Operating Expenses

Travel to and from Palawan	\$ 2,500
Reproduction Expense	1,500
Miscellaneous	2,000
Other Operating Expenses	\$ 6,000
TOTAL COST	86,100

CHECKLIST

MAJOR ISSUES AT PROJECT IDENTIFICATION/PREPARATION PHASE

Institutional/Organizational Issues

- Are policy-makers committed to nutrition ?
- Is the nutrition sector organizationally linked to the agriculture and infrastructure sectors ?
- Are there trained/experienced government specialists that are able to deal with food consumption/nutrition issues ?
- Are there country specialists available who could be contracted to investigate nutrition issues in projects ?

Issues Relating to Data and Data Generation

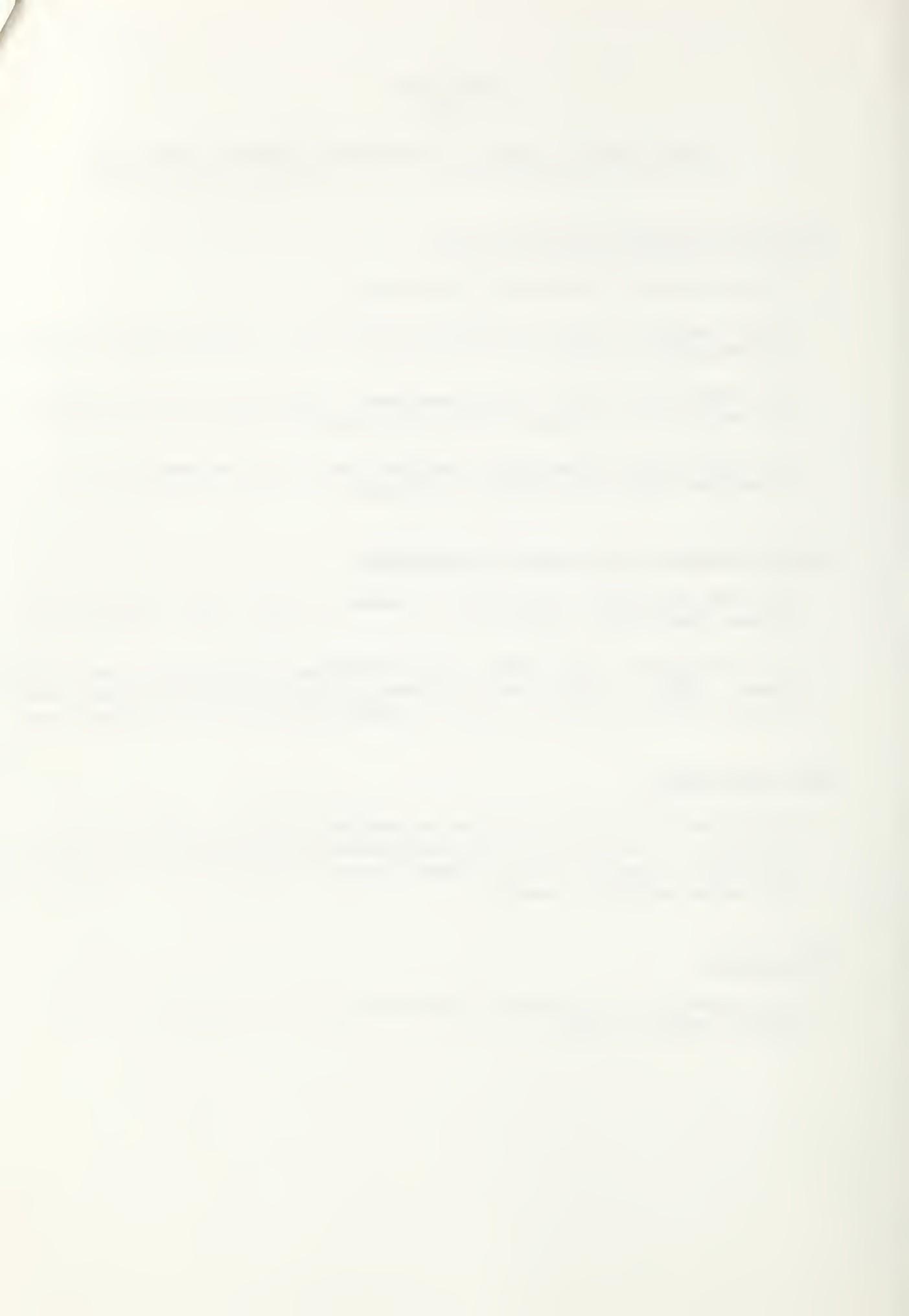
- Are there available interviewers trained to handle child weighing and 24-hour food recall surveys ?
- Do the findings of this phase jibe with those of the pre-project selection phase ? NOTE : In the case of Palawan, many of the findings were contradictory; hence, there is a need for sample survey of the project area.

Analytical Issues

- How far can nutrition objectives be pursued vis-a-vis other project objectives ? Are planners and decision-makers of donor agency and of the government prepared to accept lower economic returns on the project, but with large nutrition benefits ?

Other Issues

- Is it feasible to add water supply and sanitation components in the overall project design ?



CHECKLIST

MAJOR ISSUES AT PRE-PROJECT SELECTION PHASE

- Is it feasible for nutrition sector to participate in the project preparation stage ?
- Are there specialists available to make initial nutrition impact assessment, both in the government or private sector ?
- Are there available secondary data to characterize the food and nutrition situation in the project area ?
- Is it feasible to pinpoint possible nutrition issues in the proposed project, from the available secondary data ?
- Is it feasible to include nutrition criteria in the project's terms of reference for the conduct of the feasibility studies ?



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